Human tumor biopsy material was cultivated after processing in the laboratory of Rational Therapeutics. This ex vivo approach to tumor growth enables assessment of tumor sensitivity testing to novel as well as established chemotherapeutic agents. Tested against 23 different surgical specimens near complete suppression of tumor growth was observed against ovarian, primary peritoneal, head and neck, Non-Hodgkin's lymphoma and pancreatic cancers. Those samples derived from neuroendocrine, glioblastoma and thyroid cancers did not respond as well. Additional testing is, of course, required but the data to date provide clear evidence of a tumor type selectivity of response to PBI-05204. Future plans call for a correlation of tumor sensitivity with relative expression of alpha-3 subunit of Na, K-ATPase.